Mathematics Criteria for AHD Review

- **Algebra I**
  - Use algebraic skills in a wide-range of problem solving situations

    Topics include:
    - operations with real numbers
    - linear equations and inequalities
    - relations and functions
    - polynomials
    - algebraic fractions
    - nonlinear equations

- **Algebra II**

  Topics include:
  - relations, functions, equations, and inequalities
  - conic sections
  - polynomials
  - algebraic fractions
  - logarithmic and exponential functions
  - sequences and series
  - counting principles and probability

- **Geometry**
  - Utilizes deductive and inductive reasoning

    Topics include:
    - points, lines, angles and planes
    - polygons, with a special focus on quadrilaterals, triangles, right triangles
    - circles
    - polyhedra and other solids

- **Trigonometry**

  Topics include:
  - trigonometry in triangles
  - trigonometric functions, identities, and equations
  - polar coordinates and complex numbers

- **Pre-Calculus**

  Topics include:
  - relations and functions
  - exponential and logarithmic functions
  - trigonometry in triangles
  - trigonometric functions, identities, and equations
  - polar coordinates and complex numbers
  - sequences and series
  - data analysis

- **Probability and Statistics**

  Topics include:
  - descriptive statistics
  - probability
  - statistical inference

- **Discrete Mathematics**

  Topics include:
  - counting techniques
  - matrices
  - recursion
  - graph theory
  - social choice
  - linear programming
  - game theory

- **Calculus**
  - Utilizes deductive and inductive reasoning
  - Provides students with content established by the College Board
  - Utilizes graphing technology

  Topics include:
  - limits and continuity
  - differential calculus
  - applications of derivatives
  - integral calculus
  - applications of integration

- **Mathematical Topics (I, II and III)**
  - Covers all Algebra I, Geometry, and Algebra II topics without separation of concepts

- **Data Analysis and Probability**

  Topics include:
  - basic laws of probability
  - simulation of probability experiments
  - methods of gathering data
  - methods of drawing conclusions from data based on sampling

- **Mathematics (Advanced Placement or College Credit)**

  Course that accomplishes any of the following
  - follows the College Board Entrance Examination guidelines for advanced placement mathematics
  - offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school
  - offers dual credit as a postsecondary mathematics course under provisions of 511 IAC 22-10.1-22.2-1-2.6

  Use the subject matter for the course title and include the college course number for college credit courses (e.g., "Calculus, M211").

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